



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	: Leroy Braun	
Appln. No.	: 10/685,240	
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Title	: MULTIMEDIA FEATURE FOR DIAGNOSTIC INSTRUMENTATION	Examiner: J. Chapman
Docket No.	: M33.12-0024	

DECLARATION OF JACK FOREMAN UNDER 37 C.F.R. 1.132

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I, Jack Foreman, state:

1. I am a product manager for Tremetrics, a company that designs and manufactures a complete line of innovative hearing/health testing equipment including industrial audiometer systems. I have been employed by Tremetrics for over ten years, and have been involved in the occupational hearing testing industry for about 33 years.
2. In my role as product manager, I have access to sales information for audiometers sold by Tremetrics and Maico (an affiliated company).
3. I have reviewed claims 6-21 of U.S. Application No. 10/685,240 (attached as Appendix A).
4. Based on my review, claims 6-21 of U.S. Application No. 10/685,240 are directed to an audiometer system having an output that is automatically switched from test tones, to audible corrective instructions in response to a detected error in responses to the test tones, and back to test tones after the instructions have been provided to automatically resume testing, under computer control without human intervention.

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5. Since 1997, a number of products have been sold by Tremetrics and Maico that embody the invention of claims 6-21 of U.S. Application No. 10/685,240. These products include the Tremetrics HT Wizard Audiometer System, the Tremetrics RA300 Plus Audiometer System, the Tremetrics RA650 Audiometer System, and the Maico MA-1000 Audiometer System. All of these products are capable of delivering audible corrective instructions in response to a detected error, and then automatically switching back to the delivery of test tones to resume testing without human intervention.
6. In 1997-1998, Maico was awarded a contract in response to Solicitation DADA 15-96-R-0031 for approximately 2500 MA-1000 Audiometer Systems that embodied the invention of claims 6-21 of U.S. Application No. 10/685,240 (approximately 2000 of which were sold in 1997-1998). In response to the original solicitation, only Tremetrics (submitting a proposal based on the RA650 Audiometer System) and Maico (submitting a proposal based on the MA-1000 Audiometer System) were able to provide products that automatically delivered audible corrective instructions in response to a detected error, and then automatically resumed the delivery of test tones after providing the corrective instructions, all without human intervention. A product that did not include this capability would not have been selected for the contract, as it would have received a lower score than the Tremetrics and Maico submissions.
7. The contract awarded to Maico in response to Solicitation DADA 15-96-R-0031 (for the sale of approximately 2000 audiometers in 1997-1998) resulted in total audiometer sales by Tremetrics and Maico in 1997-1998 of approximately 3600 audiometers. By contrast, in 1995-1996, total audiometer sales by Tremetrics and Maico were in the range of approximately 900-1000 audiometers, representing about a 360%-400% increase in total audiometer sales from 1995-1996 to 1997-1998.

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8. Of the approximately 3600 audiometers sold by Tremetrics and Maico in 1997-1998, approximately two-thirds embodied the invention of claims 6-21 of U.S. Application No. 10/685,240.
9. The percentage of audiometers sold by Tremetrics and Maico that embody the invention of 6-21 of U.S. Application No. 10/685,240 has increased over time. In 1995-1996, 0% of audiometers sold by Tremetrics and Maico embodied the invention of claims 6-21 of U.S. Application No. 10/685,240. In 1997-1998, if the contract awarded in response to Solicitation DADA 15-96-R-0031 is ignored, approximately 23% of audiometers sold by Tremetrics and Maico embodied the invention (if the contract sales are taken into account, the percentage is even higher). In 1999-2003, approximately 44% of audiometers sold by Tremetrics and Maico embodied the invention.
10. Since 1997, a total of approximately 8000 audiometers have been sold by Tremetrics and Maico. Of these audiometers, approximately 4500 (or about 56%) embodied the invention of claims 6-21 of U.S. Application No. 10/685,240.
11. To the best of my knowledge, there has never been a substantial change in advertising expenditures for audiometers by Tremetrics and Maico, as my experience has shown that the industrial audiometer market does not respond to additional advertising (and therefore very little advertising is done).
12. To the best of my knowledge, the overall market for industrial audiometers has not significantly changed in size over the last ten (or more) years. Therefore, it is my opinion that the increased sales of audiometers since 1997 discussed above has resulted in a corresponding increase in overall market share of Tremetrics and Maico during this time period.
13. The contract awarded to Maico in 1997-1998 in response to Solicitation DADA 15-96-R-0031 (for approximately 2000 audiometers in 1997-1998, and a total of approximately 2500 audiometers) was a significant increase in

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the commercial success of audiometers sold by Tremetrics and Maico. Without this contract, it would have taken Tremetrics and Maico at least 2-3 years at typical sales rates to sell this many audiometers.

14. The inclusion of the features of claims 6-21 of U.S. Application No. 10/685,240 was essential to the selection of the Maico MA-1000 as the winning bid for Solicitation DADA 15-96-R-0031 (see also paragraph 6 above). In addition, the overall demand for audiometer systems that embody the features of claims 6-21 of U.S. Application No. 10/685,240 has continued to rise, and the ability to provide products having these features has resulted in additional commercial success of those products that is attributable to the claimed features.
15. The evidence provided above shows that products embodying the features of claims 6-21 of U.S. Application No. 10/685,240 have had significant commercial success, and that this commercial success is attributable to those features.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.



Jack Foreman

Date: 13 Sept. 2006

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APPENDIX A

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6. A multimedia audiometer comprising:
 - audio circuitry capable of generating audible test tones for delivery to earphones worn by a test subject;
 - a computer selectively operable to produce instructions represented by sound waves for delivery to the earphones, the computer being operatively coupled to the audio circuitry;
 - microprocessor circuitry operatively coupled to the computer, the microprocessor circuitry including a central processing unit (CPU) and a memory;
 - an interface operatively coupled to the computer and the microprocessor circuitry for signaling whether the test subject perceives the audible test tones generated by the audio circuitry;
 - a switch having a first state in which audible test tones generated by the audio circuitry are provided to the earphones, and a second state in which the instructions represented by sound waves produced by the computer are provided to the earphones; and
 - software stored in at least one of the computer and the memory of the microprocessor circuitry, the software operating the computer, the microprocessor circuitry, the audio circuitry and the interface to generate the audible test tones for delivery to the earphones, monitor responses by the test subject, detect errors in the test subject's responses, selectively produce the instructions for delivery to the earphones in response to the detected errors, and to control the switch to switch to the second state when errors are detected in the test subject's responses and to automatically switch back to the first state following delivery of the instructions to the earphones so that testing is resumed without human intervention.
7. The multimedia audiometer of claim 6, wherein the responses of the test subject are compiled and stored in at least one of the computer and the memory of the microprocessor circuitry.
8. The multimedia audiometer of claim 7, wherein the software operates the computer, the microprocessor circuitry, the audio circuitry and the interface according to a pre-programmed logical testing procedure.
9. The multimedia audiometer of claim 8, wherein the logical testing procedure is the Hughson-Westlake procedure.

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10. The multimedia audiometer of claim 6, wherein the software is stored in the computer.
11. The multimedia audiometer of claim 6, wherein the software is stored in the memory of the microprocessor circuitry.
12. A computer adapted to perform an audiometric test of a subject, comprising:
 - a test tone generator operable to deliver audible test tones to earphones worn by the subject;
 - an input/output interface; and
 - software programmed to control the test tone generator to deliver the audible test tones to the earphones worn by the subject, monitor responses by the subject received over the input/output interface, detect errors in the subject's responses, selectively deliver audible corrective instructions to the earphones in response to the detected errors, and automatically resume delivery of the audible test tones after the audible corrective instructions are delivered without human intervention.
13. The computer of claim 12, wherein the software is operable to compile the responses of the subject and store results of the audiometric test.
14. The computer of claim 13, wherein the software is operable to display and/or print the results of the audiometric test.
15. The multimedia audiometer of claim 6, wherein the switch comprises a relay circuit.
16. A method of performing an audiometric test of a subject, comprising:
 - controlling an audiometer to generate audible test tones in a headset worn by the subject;
 - monitoring responses to the audible test tones by the subject;
 - detecting errors in the subject's responses to the audible test tones;
 - storing the detected errors in a computer memory;
 - automatically producing selected audible corrective instructions in response to the detected errors and switching an input to the headset to the audible corrective instructions; and
 - automatically switching the input to the headset back to the audible test tones after the audible corrective instructions are produced.

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17. The method of claim 16, wherein the steps of controlling the audiometer to generate audible test tones and monitoring the subject's responses are performed according to a logical testing procedure.
18. The method of claim 17, wherein the logical testing procedure is the Hughson-Westlake procedure.
19. The method of claim 16, wherein the step of automatically producing selected audible corrective instructions in response to the detected errors and switching the input to the headset to audible corrective instructions, and the step of automatically switching the input to the headset back to the audible test tones after the audible corrective instructions are produced are performed by a computer.
20. The method of claim 16, further comprising:
 - displaying and/or printing results of the audiometric test.
21. The method of claim 16, further comprising:
 - halting the audiometric test when a threshold number of errors is determined.